INDIANA
Epidemiology
NEWSLETTER

Indiana State Department of Health

Epidemiology Resource Center
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International Travel Clinics in Indiana

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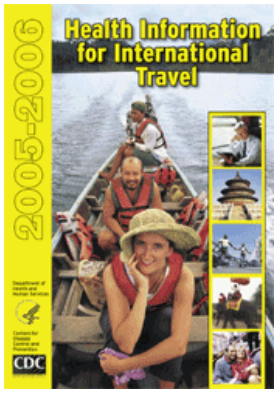
Becoming a yellow fever vaccine provider, also known as an international travel clinic, is an easy process. Despite the ease of this process, many Indiana counties lack adequate coverage (please refer to the map on page 6). The intent of this article is to provide information to health care providers about the requirements for becoming a travel clinic and to help reduce health risks for those traveling abroad. It is not intended to serve as an comprehensive source of information on travel-related risks or diseases.

Disease Risks for International Travelers

According to the Centers for Disease Control and Prevention (CDC), the following diseases are most commonly associated with international travel:

- Hepatitis A
- Hepatitis B
- Japanese Encephalitis (for those visiting rural areas four weeks or longer)
- Malaria
- Measles
- Meningitis
- Polio
- Rabies
- Tetanus
- Typhoid Fever
- Yellow Fever

Information regarding the above travel-related diseases can be found at the follow web site: http://www.cdc.gov/travel/diseases.htm. In addition, the *Yellow Book* is published by the CDC every two years. It is widely considered to be the best guide for reducing disease risks when traveling overseas. The *Yellow Book* provides information on vaccines needed when visiting a particular country as well as general safety recommendations. It is strongly recommended that international travelers receive their vaccines 4-6 weeks prior to traveling outside of the United States.



There are many risks of disease exposure when traveling abroad. U.S. citizens often do not have the immunity that local populations may have. Some groups, such as pregnant women, young children, the elderly, and those with weakened immune systems, have additional risks. A new risk group, known as VFRs (visiting friends and relatives), has recently been identified. These are immigrant populations from developing countries who have emigrated to the United States and return to visit their country of origin. In 2002, 40 percent of U.S. citizens traveling abroad were VFRs. VFRs appear to be at greater risk for malaria, typhoid fever, and hepatitis A. In 2002, 45 percent of the imported cases of malaria cases occurred in VFRs. Most cases of typhoid fever are imported, and 77 percent of these cases occur in VFRs. Many of these travelers may consider themselves immune when they are not.

The impact of disease cases imported into the U.S. can be substantial. Those infected overseas can bring the disease to the U.S., where it can circulate among others who are not protected. In Indiana, in 2005, 32 cases of measles resulted from a single case imported into the state. This unvaccinated person was infected while traveling abroad; the disease was further transmitted throughout an unvaccinated population. Virtually all cases of measles in the U.S. can be traced to international travel.

While no longer a threat in the U.S., several mosquito-borne diseases, such as yellow fever, malaria, and dengue fever are still endemic in certain countries. Figure 1 shows the locations where yellow fever is still endemic. Although a documented case of imported yellow fever has not occurred in Indiana for many years, the risk is still present when traveling to those countries where the disease is still endemic.

Figure 1.

Yellow Fever-Endemic Zones

Africa

South America

Yellow fever vaccine is the only vaccine that may be ***required*** in some countries. All other vaccines are only recommended by the CDC.

Becoming an International Travel Clinic

Currently, 74 clinics are registered in Indiana. Twelve of these are located at local health departments (LHD); 54 are located at private physician offices; and eight are located at private businesses, hospitals, and universities. The CDC Web site is updated each time a new travel clinic is added to registry. Private citizens can access the CDC travel Web site and identify a nearby travel clinic. (The travel clinic can choose not to be included on the CDC Web site.) Indiana travel clinics are also posted on the ISDH web site.

To become a travel clinic, a health care provider or LHD must first contact the ISDH. The provider or LHD will receive a packet of information that includes: a Yellow Fever Vaccination Authorization form, Vaccine Information Statements (VIS), Vaccine Adverse Event Reporting System (VAERS) report, a fact sheet on the proper storage of vaccines, and the proper format of the yellow fever stamp. An application from Sanofi Pasteur, which manufactures yellow fever vaccine, is also provided in the packet.

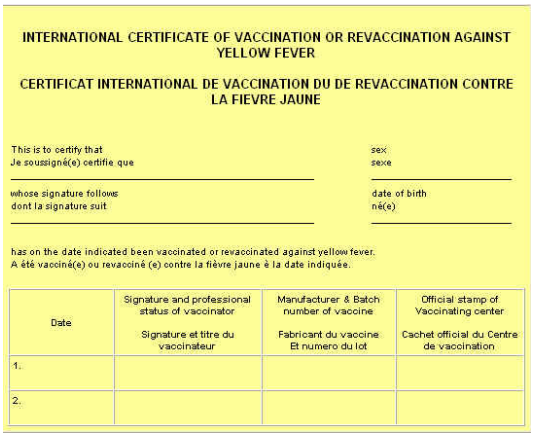
Each provider's office or LHD must have its own unique stamp number for administration of yellow fever vaccine. The LHD stamp number is based on the county and city where the LHD is located. Each county and city has an individual code number beginning with the number 13, the state code number for Indiana. Physician offices simply use the license number of the physician who is responsible for the vaccines being administered.

Yellow fever vaccine can be purchased from Sanofi Pasteur and can be purchased as five-dose or single-dose vials. A minimum of five vials must be purchased when ordering single-dose vials. Yellow fever vaccine has a shelf life of six months. Yellow fever vaccine and other travel vaccines may be purchased by contacting Sanofi Pasteur at:

Sanofi Pasteur (formerly Aventis Pasteur)
Discovery Drive
Swiftwater, PA 18370
1.800.VACCINE (822.2463)
www.vaccineshoppe.com

International Certificate of Vaccination, PHS-731 (yellow shot card), may be required in certain countries for proof of yellow fever vaccination, may be required in certain countries. Every yellow fever vaccination administered must be stamped in the space provided in the yellow shot card. These certificates of vaccination can be purchased in bundles of 100 for $15.00 or $1.25 individually. The stock number is 017-001-00483-9. To purchase International Certificate of Vaccine, contact:

Superintendent of Documents
U.S. Government Printing Office
Washington D.C. 20402
1.202.512.1800 or 1.866.512.1800



INTERNATIONAL CERTIFICATE OF VACCINATION OR REVACCINATION AGAINST YELLOW FEVER

CERTIFICAT INTERNATIONAL DE VACCINATION DU DE REVACCINATION CONTRE LA FIEVRE JAUNE

This is to certify that
Je soussigné(e) certifie que

sex
sexe

whose signature follows
dont la signature suit

date of birth
né(e)

has on the date indicated been vaccinated or revaccinated against yellow fever.
A été vacciné(e) ou revacciné (e) contre la fièvre jaune à la date indiquée.

Date	Signature and professional status of vaccinator Signature et titre du vaccinateur	Manufacturer & Batch number of vaccine Fabricant du vaccine Et numero du lot	Official stamp of Vaccinating center Cachet official du Centre de vaccination
1.			
2.			

Currently, the International Certificate of Vaccination is on back order. Per CDC recommendations, as a temporary measure, health care providers should document vaccination on official letterhead and date, sign, and stamp the letter. The traveler should retain the letter as documentation to present at time of revaccination.

As international travel increases, it is important to have adequate travel clinic coverage available to protect both international travelers as well as all Hoosiers. To become a travel clinic or to obtain more information, please contact Mike Wilkinson, Public Health Investigator, Indiana State Department of Health, at 317.234.2827 or mwilkins@isdh.IN.gov.

Resources

http://www.cdc.gov/travel/ (CDC Travel Web site--also provides cruise ship information)
http://www.cdc.gov/travel/diseases.htm
http://www.IN.gov/isdh/healthinfo/international/international_1.htm (ISDH Travel Web site)
http://www.who.int/ith/en/ (World Health Organization)
http://www.cdc.gov/nip/publications/VIS/default.htm (Vaccine Information Sheets)
http://www.cdc.gov/travel/yb/ (Ordering Yellow Book)
www.us.elsevierhealth.com (Ordering Yellow Book)
http://bookstore.gpo.gov/ (Ordering International Certificates of Vaccination)
http://www.who.int/bookorders/index.htm (Additional Source for Ordering Certificates)
http://travel.state.gov/travel/tips/safety/safety_1179.html (Federal State Department Guidelines)

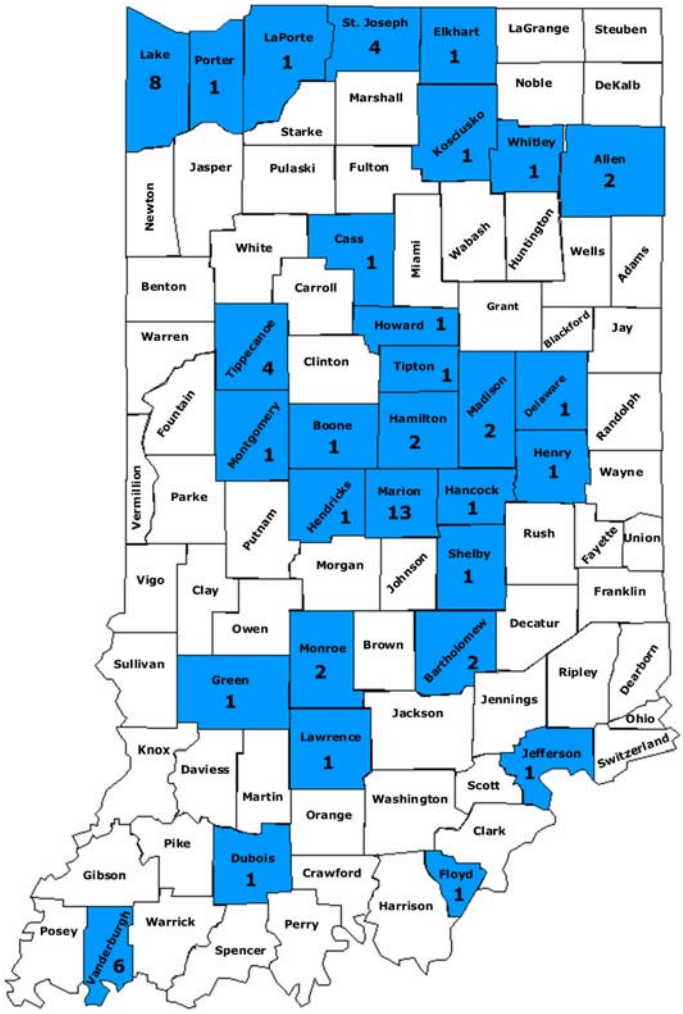
References:

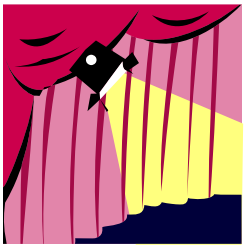
Health Information for International Travel, Department of Health and Human Services, 2005-2006 edition, Centers for Disease Control and Prevention. Pgs 321, 501-504

http://www.cdc.gov/travel/

Policies for Yellow Fever Vaccination Centers
Designated by the Indiana State Department of Health

1. **The physicians and local health departments designated by the ISDH as Yellow Fever Vaccination Centers are required to follow national policies for yellow fever vaccination activities as promulgated by the Centers for Disease Control and Prevention (CDC).**
2. **A Yellow Fever Vaccination Center designated by the ISDH is authorized to administer yellow fever vaccine only within jurisdiction of the ISDH.**
3. **Vaccine will be shipped directly to the vaccination center for administration at the center. It may not be transported or administered onboard ship or aircraft.**
4. **The uniform stamp used to validate the International Certificate of Vaccination or Revaccination against yellow fever must be approved by the ISDH. It may be used to certify only the vaccinations administered by the center.**
5. **Centers are required to report adverse reactions and complications to yellow fever vaccine, which are of sufficient severity to require medical attention.**
6. **Centers are required to report immediately loss or theft of the uniform stamp.**





OUTBREAK SPOTLIGHT....

"Outbreak Spotlight" is a regularly appearing feature in the *Indiana Epidemiology Newsletter* to illustrate the importance of various aspects of outbreak investigation. The event described below illustrates how careful monitoring of disease reports can identify outbreaks that might otherwise be undetected.

An Inapparent Outbreak of Salmonellosis in Perry County

Tom Duszynski, BS
Field Epidemiology Director

Background

On July 13, 2005, the public health nurse from the Perry County Health Department (PCHD) notified the Indiana State Department of Health (ISDH) of two cases of laboratory confirmed *Salmonella* cases. Two other confirmed cases had also been received earlier in the month, and these cases reported working at the same medical clinic. There was no apparent relationship between the latter two cases or ties between the two pairs of reports. The onset dates were June 11, June 12, and July 3 (two cases). Two cases had been hospitalized. Due to the incubation period of *Salmonella* (6-72 hours), the initial two case reports could not have transmitted infection to the second two cases.

Epidemiologic Investigation

The PCHD and the ISDH initiated a collaborative investigation. The local public health nurse conducted interviews with each of the four cases. Based on the food histories given, all four had consumed food prepared at Restaurant X in Tell City. The two clinic coworkers had eaten a catered lunch on June 8 provided by a drug company representative. That lunch was prepared and delivered by Restaurant X. The July cases indicated that each had eaten their evening meal at Restaurant X on July 1. The PCHD obtained a list of the menu items from the catered lunch on June 8. The ISDH developed a questionnaire to determine if the illness was food-related and if the catered lunch was possibly a common source. The public health nurse and the District 10 ISDH field epidemiologist conducted interviews with the clinic staff members who ate the catered lunch. A case was defined as a previously healthy person who ate the catered lunch and developed diarrhea or vomiting on or after June 8.

Ten clinic staff members reported having eaten the catered lunch, and eight stated that they became ill following the meal. Predominant symptoms reported included diarrhea (100%), cramps (75%), and nausea (62.5%). Other symptoms reported were headache, body aches, and fever. Two cases sought medical attention and submitted stool specimens to a local hospital laboratory for testing (see Laboratory Results).

Environmental Assessment

The environmental health specialist from the PCHD conducted an inspection of the restaurant on July 18. Two critical violations were noted: 1) improper storage of a food item beneath the prep table and 2) the use of plastic cups to dispense condiments. Corrective measures were discussed, and violations were corrected that day. No food handlers had reported any recent diarrheal illness.

Laboratory Results

The four identified cases submitted stool specimens at Perry County Memorial Hospital. The hospital laboratory forwarded them to a reference laboratory in Louisville, Kentucky. The stool specimens tested positive for *Salmonella*, and the isolates were forwarded to the Division of Laboratory Services at the Kentucky Department for Public Health for serotyping and pulse-field gel electrophoreses (PFGE) testing. Results were forwarded to the District 10 ISDH field epidemiologist. All four isolates were subtyped as *Salmonella enteritidis.* All four exhibited indistinguishable band patterns by PFGE analysis.

No food samples were available for testing.

Conclusions

The investigation confirmed that an outbreak of gastroenteritis occurred in Perry County between June 8 and July 3. The causative agent was *Salmonella enteritidis.* Four cases were laboratory confirmed, and all exhibited a common PFGE pattern, possibly indicating a common source.

Salmonella enteritidis is a bacterium commonly found in poultry, eggs, swine, and cattle. Infection can occur after eating undercooked foods of animal origin or ready-to-eat foods contaminated with *Salmonella* bacteria through cross-contamination of food preparation surfaces or equipment. *Salmonella* bacteria are also shed in the stool of infected persons, and infection can also be transmitted person to person through contaminated hands or surfaces.

The specific source of this outbreak was not identified. Although all cases reported having eaten food from Restaurant X within the given time frame, no common food item was identified between the two cases with onsets in July, and no common items were identified between these cases and the cases from the catered lunch. No particular food item from the catered lunch or the meals eaten by the cases in July from Restaurant X was identified as a vehicle. No food samples were available for testing. No food handlers were reported ill, and no critical violations relating to this outbreak were noted during the restaurant inspection. Statistical analysis was limited due to the small number of questionnaires obtained. The epidemic curve (Figure 1), which depicts onset dates of cases having consumed the catered lunch, is representative of a continuous source rather than a common source. The intermittent onset dates indicate that transmission among clinic workers was primarily person to person. If the catered meal was the source, the onset dates would have fallen into a very narrow range. Since those who ate the catered meal also shared a common workplace, it is possible that the initial infected person could have consumed contaminated food, but subsequent transmission was due to contact within the work environment.

All four laboratory-confirmed cases showed identical PFGE band patterns. Typically, identical PFGE band patterns can indicate a common source of exposure. However, since *S. enteritidis* is extremely common, even cases having identical band patterns may not necessarily be related to the same source.

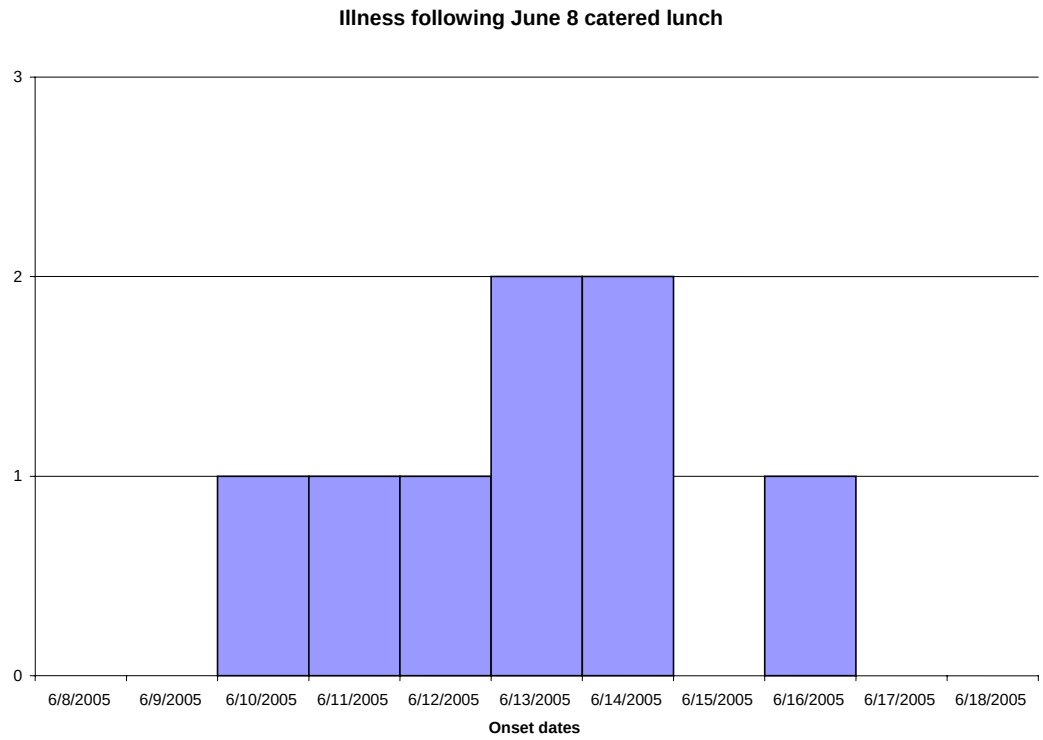
In general, most foodborne outbreaks of *Salmonella* can be avoided by strictly adhering to the following practices:

1. Thoroughly wash hands with soap and water before, during, and after food preparation.
2. Educate employees about proper hand washing after using the restroom.
3. Exclude employees from working while ill with diarrhea and/or vomiting until symptoms have ceased.
4. Thoroughly cook all food items derived from animal sources, particularly poultry, pork, egg products, and meat dishes.
5. Use separate utensils, equipment, and preparation surfaces for raw meats and eggs and ready-to-eat foods such as lettuce and vegetables.
6. Use pasteurized or irradiated egg products to prepare dishes in which eggs would otherwise be pooled before cooking or when the food item containing eggs is not subsequently cooked.
7. Store foods at proper refrigeration and holding temperatures.

Addendum

On September 13, the PCHD contacted the ISDH regarding another confirmed *Salmonella* case who reported eating at Restaurant X. Later laboratory results identified the cause as *Salmonella enteritidis.* No further reports were received. The PCHD and the ISDH collaborated again to determine if the local restaurant was the source of these illnesses. The PCHD environmental health specialist and a field representative from the ISDH Food Protection Program visited Restaurant X on September 22 to conduct a Hazard Analysis Critical Control Point (HACCP) inspection, a process designed to monitor and evaluate food preparation and to identify and eliminate potential food safety problems. No practices were attributable to potential *Salmonella* contamination. The environmental health specialist requested the voluntary submission of stool specimens from the four food handlers at the restaurant. All four tested negative for *Salmonella.*

Figure 1.



Training Room

INDIANA STATE DEPARTMENT OF HEALTH IMMUNIZATION PROGRAM PRESENTS:

Immunizations from A to Z

Immunization and Health Educators offer this FREE, one-day educational course that includes:

- Principles of Vaccination
- Childhood and Adolescent Vaccine-Preventable Diseases
- Adult Immunizations
  - Pandemic Influenza
- General Recommendations on Immunization
  - Timing and Spacing
  - Indiana Immunization Requirements
  - Administration Recommendations
  - Contraindications and Precautions to Vaccination
- Safe and Effective Vaccine Administration
- Vaccine Storage and Handling
- Vaccine Misconceptions
- Reliable Resources

This course is designed for all immunization providers and staff. Training manual, materials, and certificate of attendance are provided to all attendees. Please see the Training Calendar for presentations throughout Indiana. Registration is required. To attend, schedule/host a course in your area or for more information, please contact **Beverly Sheets at 317-502-5722 or** hepbbev@aol.com or http://www.in.gov/isdh/programs/immunization.htm

ISDH Data Reports Available

The ISDH Epidemiology Resource Center has the following data reports and the Indiana Epidemiology Newsletter available on the ISDH Web Page:

http://www.IN.gov/isdh/dataandstats/data_and_statistics.htm

HIV/STD Quarterly Reports (1998-June 05)	Indiana Mortality Report (1999, 2000, 2001, 2002, 2003)
Indiana Cancer Incidence Report (1990, 95, 96, 97, 98)	Indiana Infant Mortality Report (1999, 2002, 2003)
Indiana Cancer Mortality Report (1990-94, 1992-96)	Indiana Natality Report (1998, 99, 2000, 2001, 2002, 2003)
Combined Cancer Mortality and Incidence in Indiana Report (1999, 2000, 2001, 2002)	Indiana Induced Termination of Pregnancy Report (1998, 99, 2000, 2001, 2002, 2003)
Indiana Health Behavior Risk Factors (1999, 2000, 2001, 2002, 2003, 2004)	Indiana Marriage Report (1995, 97, 98, 99, 2000, 2001, 2002)
Indiana Health Behavior Risk Factors (BRFSS) Newsletter (9/2003, 10/2003, 6/2004, 9/2004, 4/2005, 7/2005, 12/2005, 1/2006)	Indiana Infectious Disease Report (1997, 98, 99, 2000, 2001)
Indiana Hospital Consumer Guide (1996)	Indiana Maternal & Child Health Outcomes & Performance Measures (1990-99, 1991-2000, 1992-2001, 1993-2002)
Public Hospital Discharge Data (1999, 2000, 2001, 2002, 2003)	

HIV Disease Summary

Information as of November 30, 2005 (based on 2000 population of 6,080,485)

HIV - without AIDS to date:

357	New HIV cases from December 2004 thru November 2005	12-month incidence	5.87 cases/100,000
3,595	Total HIV-positive, alive and without AIDS on November 30, 2005	Point prevalence	59.13 cases/100,000

AIDS cases to date:

395	New AIDS cases from December 2004 thru November 2005	12-month incidence	6.50 cases/100,000
3,777	Total AIDS cases, alive on November 30, 2005	Point prevalence	62.12 cases/100,000
7,780	Total AIDS cases, cumulative (alive and dead)		

REPORTED CASES of selected notifiable diseases

Disease	Cases Reported in November *MMWR* Weeks 44-48		Cumulative Cases Reported January -November *MMWR* Weeks 1-48	
	2004	2005	2004	2005
Campylobacteriosis	38	28	384	400
Chlamydia	1,724	1,758	17,161	18,496
E. coli O157:H7	3	4	51	62
Hepatitis A	3	4	54	51
Hepatitis B	4	14	43	56
Invasive Drug Resistant *S. pneumoniae* (DRSP)	17	16	150	179
Invasive pneumococcal (less than 5 years of age)	10	11	44	67
Gonorrhea	676	722	6,344	7,419
Legionellosis	4	2	45	27
Lyme Disease	4	1	28	33
Measles	0	0	0	33
Meningococcal, invasive	2	0	20	18
Pertussis	72	36	242	316
Rocky Mountain Spotted Fever	0	1	6	3
Salmonellosis	50	28	471	562
Shigellosis	25	20	205	170
Syphilis (Primary and Secondary)	4	1	57	56
Tuberculosis	7	13	117	126
Animal Rabies	0	0	10 (9 bats, 1skunk)	11 (bats)

For information on reporting of communicable diseases in Indiana, call the *ISDH Epidemiology Resource Center* at 317-233-7125.

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The *Indiana Epidemiology Newsletter* is published by the Indiana State Department of Health to provide epidemiologic information to Indiana health professionals and to the public health community.